

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A system for accessing a subterranean zone from the surface, comprising:
 - a well bore extending from the surface to the subterranean zone; and
 - a well bore pattern connected to the junction and operable to drain fluid from a region of the subterranean zone to the junction.
2. (Original) A system for accessing a coal seam from the surface, comprising:
 - a first well bore extending from the surface to the coal seam; and
 - a second well bore extending from the surface to the coal seam, the second well bore operable to drain fluid from the coal seam to the first well bore for production to the surface
3. (Original) A method for accessing a subterranean zone from the surface, comprising:
 - forming a first well bore extending from the surface to the subterranean zone;
 - forming a second well bore extending from the surface to the subterranean zone; and
 - forming a well bore pattern connected to the second well bore and providing drainage of fluids, by the second well bore, from the subterranean zone to the first well bore for production to the surface.

4. (Original) A method for accessing a subterranean zone from the surface, comprising:

drilling a substantially vertical well bore from the surface to the subterranean zone; and
drilling an articulated well bore from the surface to the subterranean zone, the articulated well bore horizontally offset from the substantially vertical well bore at the surface and operable to drain fluid from the subterranean zone to the first well bore for production to the surface.

5. (Original) A method for accessing a subterranean zone from the surface, comprising:

forming a first well bore extending from the surface to the subterranean zone;
forming a second well bore from the surface to the subterranean zone;
forming a well bore pattern connected to the second well bore;
draining fluid from the well bore pattern to the second well bore; and
collecting the drained fluid from the first well bore for production to the surface.¹

6. (Previously Presented) A system for production of gas from a coal seam to a surface, comprising:

a well system extending from the surface to the coal seam;
the well system including a horizontal drainage bore;
production equipment installed in the well system;
the production equipment operable to produce water collected in the horizontal drainage bore from the coal seam to the surface while maintaining a level of the water in the well system below a top of the coal seam; and
whereby gas collected in the horizontal drainage bore from the coal seam may be produced to the surface.

7. (Previously Presented) The system of Claim 6, wherein the production equipment comprises a pump.

8. (Previously Presented) The system of Claim 7, wherein the pump comprises a rod pump.

9. (Previously Presented) The system of Claim 7, wherein the pump comprises an inlet positioned in the horizontal drainage bore.

10. (Previously Presented) The system of Claim 7, wherein the pump comprises an inlet positioned in the well system below the horizontal drainage bore.

11. (Previously Presented) The system of Claim 7, wherein the pump comprises an inlet positioned in the well system below the top of the coal seam.

12. (Previously Presented) The system of Claim 7, wherein the pump comprises an inlet positioned in the coal seam.

Applicant : Joseph A. Zupanick
Serial No. : 10/630,345
Filed : July 29, 2003
Page : 5 of 15

Attorney's Docket No.: 17601-043001

13. (Previously Presented) The system of Claim 6, wherein the production equipment is operable to maintain a level of the water in the well system below a top of the horizontal drainage bore.

14. (Previously Presented) A system for production of gas from a coal seam to a surface, comprising:

a well system extending from the surface to the coal seam;
the well system including a horizontal drainage bore;
a pump installed in the well system and operable to produce water collected in the horizontal drainage bore from the coal seam to the surface;
the pump comprising an inlet positioned in the well system below a top of the coal seam;
and
whereby gas collected in the horizontal drainage bore from the coal seam may be produced to the surface.

15. (Previously Presented) The system of Claim 14, wherein the pump comprises a rod pump.

16. (Previously Presented) The system of Claim 14, wherein the pump inlet is positioned in the horizontal drainage bore.

17. (Previously Presented) The system of Claim 14, wherein the pump inlet is positioned in the well system below the horizontal drainage bore.

18. (Previously Presented) The system of Claim 14, wherein the pump inlet is positioned in the coal seam.

19. (Previously Presented) The system of Claim 14, wherein the pump is operable to maintain a level of the water in the well system below a top of the coal seam

20. (Previously Presented) The system of Claim 14, wherein the pump is operable to maintain a level of the water in the well system below a top of the horizontal drainage bore.

21. (New) A method for management of by-product from a coal seam, comprising:
drilling a well in a coal seam, the well including a drainage pattern;
producing water from the coal seam through the drainage pattern and to a surface;
producing gas from the coal seam through the drainage pattern and to the surface; and
returning subsurface at least some of the water produced to the surface.
22. (New) The method of Claim 21, further comprising collecting subsurface in the
well water drained from the coal seam through the drainage pattern.
23. (New) The method of Claim 22, further comprising pumping water collected
subsurface to the surface.
24. (New) The method of Claim 21, further comprising re-injecting subsurface at
least some of the water.
25. (New) The method of Claim 21, further comprising returning at least some of the
water to a permeable zone subsurface.

26. (New) A method for drilling a well in a coal seam, comprising:
pumping a drilling fluid down a drill string to a bit drilling a well bore in a coal seam;
and
reducing downhole pressure exerted by the drilling fluid.

27. (New) The method of Claim 26, further comprising reducing down-hole pressure exerted by the drilling fluid by lightening the hydrostatic pressure of the drilling fluid.

28. (New) The method of Claim 26, further comprising reducing down-hole pressure exerted by the drilling fluid by gas lift.

29. (New) The method of Claim 26, further comprising reducing down-hole pressure exerted by the drilling fluid by aerating the drilling fluid.

30. (New) The method of Claim 26, further comprising reducing down-hole pressure exerted by the drilling fluid by circulating compressed air and mixing the air with the drilling fluid.

31. (New) The method of Claim 26, further comprising reducing down-hole pressure exerted by the drilling fluid by pumping the drilling fluid to the surface with a down-hole pump.

32. (New) The method of Claim 26, further comprising reducing down-hole pressure to nearly zero.

33. (New) The method of Claim 26, further comprising reducing down-hole pressure below over balanced conditions.

34. (New) The method of Claim 26, further comprising reducing down-hole pressure to approximately 150-200 pounds per square inch.

35. (New) A method of forming a well in a coal seam, comprising:
drilling a well including a horizontal bore in a coal seam; and
reducing the down-hole pressure sufficiently that drilling conditions are not over
balanced for drilling of the horizontal bore.

36. (New) The method of Claim 35, wherein the well comprises a horizontal drainage
pattern including the horizontal bore.

37. (New) The method of Claim 36, further comprising reducing the down-hole
pressure sufficiently that drilling conditions are under balanced for drilling of the horizontal
drainage pattern.

38. (New) The method of Claim 35, wherein the coal seam is porous and fractured.

Applicant : Joseph A. Zupanick
Serial No. : 10/630,345
Filed : July 29, 2003
Page : 10 of 15

Attorney's Docket No.: 17601-043001

39. (New) A method for producing gas from a coal seam, comprising:
drilling with drilling conditions that are not over balanced a horizontal well bore in a coal
seam; and
producing gas collected by the horizontal well bore to the surface.

40. (New) A method for accessing a subterranean zone from the surface, comprising:
drilling a well bore in a subterranean zone; and
during drilling, pumping drilling fluid and cuttings from the well bore to the surface.

41. (New) The method of Claim 40, whereby hydrostatic pressure on the
subterranean zone is reduced during drilling.

42. (New) The method of Claim 40, wherein the well bore comprises a first well
bore, further comprising pumping drilling fluid and cuttings from the well bore to the surface
through a second well bore.

43. (New) The method of Claim 42, wherein the second well bore comprises a
substantially vertical well bore.

44. (New) The method of Claim 42, wherein the first well bore comprises an
articulated well bore.

45. (New) The method of Claim 40, wherein drilling the well bore comprises drilling
a main horizontal bore and a plurality of lateral bores.

46. (New) The method of Claim 40, wherein the subterranean zone comprises a
pressure below 150 pounds per square inch (psi).

47. (New) The method of Claim 40, wherein the subterranean zone comprises a coal
seam.

48. (New) The method of Claim 40, further comprising pumping drilling fluid and
cuttings from the well bore to the surface using a downhole pump.

49. (New) The method of Claim 40, further comprising pumping drilling fluid and cuttings from the well bore to the surface using gas lift.

50. (New) The method of Claim 40, whereby drilling is accomplished without loss of drilling fluids into the subterranean zone and plugging the subterranean zone.

51. (New) The method of Claim 42, the first and second well bores intersecting one another at a junction, further comprising pumping drilling fluid and cuttings from proximate to the junction of the first and second well bores to the surface.

52. (New) The method of Claim 51, wherein the junction comprises a cavity.

53. (New) A method for underbalanced drilling of a coal formation, comprising:
drilling a substantially horizontal well bore in the coal seam; and
during drilling of the substantially horizontal well bore in the coal formation, pumping
drilling fluid and cuttings from the substantially horizontal well bore to the surface.

54. (New) A method for accessing a subterranean coal formation from the surface, comprising:

drilling a substantially horizontal well bore in the coal formation; and
during drilling of the substantially horizontal well bore in the coal formation, lightening hydrostatic pressure exerted by drilling fluids on the coal formation.

55. (New) The method of Claim 54, further comprising lightening hydrostatic pressure exerted by the drilling fluids by pumping the drilling fluids from the substantially horizontal well bore to the surface.

56. (New) The method of Claim 55, further comprising pumping the drilling fluids using a downhole pump.

57. (New) The method of Claim 55, further comprising pumping the drilling fluids using gas lift.

58. (New) The method of Claim 55, further comprising pumping drilling fluids from the substantially horizontal well bore to the surface through a second well bore intercepting a substantially horizontal well bore.